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 ABSTRACT The verbal and cognitive effects of both a Toy
 Demonstrator and a similar home visitor who abstained from
 stimulation techniques were studied in the Verbal Interaction
 Project. Three groups of children, totalling 54, participated in the
 study from July 1967 through June 1968. One group received "double
 intervention" (Toy Demonstrator), another received "single
 intervention" (home visitor), and a third group received no
 intervention. All groups received psychological testing before and
 after the seven-month experimental intervention period. The
 experiment and results confirmed the ability of the Mother-Child Home
 Program to raise significantly the initially low mean verbal and
 general IQ's of the children exposed to "double intervention." The
 Toy Demonstrators used in this program were trained and experienced
 social workers; however, nonprofessionals personnel were trained to
 assume Toy Demonstrator role. Two groups were given training--family
 agency volunteers, and women who had been mother-participants. The
 effects of using nonprofessionals have not been evaluated. (DB)

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FOSTERING THE MOTHER'S ROLE IN THE
COGNITIVE GROWTH OF
LOW INCOME PRESCHOOLERS:
A NEW FAMILY AGENCY FUNCTION¹

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FOSTERING THE MOTHER'S ROLE IN THE COGNITIVE GROWTH OF PRESCHOOLERS:

A NEW FAMILY AGENCY FUNCTION

Phyllis Levenstein

The Verbal Interaction Project, under the sponsorship of the Family Service Association of Nassau County, is exploring a promising new means of preparing two and three year old children of low income families for the good school achievement vital to breaking the "cycle of poverty." The method depends essentially on encouraging what is probably the oldest human dialogue: that between mother and child. It grew out of the conviction, based on considerable research evidence, that a child's intellectual development is closely linked to his verbal growth; that his mother can influence his cognitive development by the amount and quality of her verbal interaction with him; and that a family service agency can strongly support her in that influence.

Whether she is aware of it or not, a preschool child's mother is likely to be the principal environmental agent of her child's intellectual growth. In this role -- essentially that of a cognitive socializer -- she stands, as in all of her socialization of the child, as the representative of the family, which is, of course, the major conduit from societal culture to the individual. Society's formal institution for cognitive socialization of the older child - the school - must eventually take over a major part of her role. But if the family, through the mother, has not laid a cognitive foundation to prepare the child for making the most of school experience, we will be apt to hear once more the familiar plaint of the educator: "Too late."

That plaint is heard less often in regard to the child whose home has been rich in verbal interaction between child and family - and rich in the ordered sensory materials and experiences which make up the categories available to the child and his family for that verbal interaction (Brown, 1958). Such enrichment is to be found so often in families with relatively prosperous parents that we have come to speak of the "hidden cognitive curriculum" of such families.

A family service agency is concerned with all aspects of the individual's socialization through the family, is firmly based in a belief in the family's crucial societal function, and is attuned to the urgent need of breaking the poverty cycle through education. All of this is true of the Family Service Association of Nassau County. In addition, this agency has experimented with incorporating cognitive enrichment into a group work program with school age children (Sunley, 1969). It was in the light of this experience that the agency charged the Verbal Interaction Project with investigating the possibility of helping low income mothers to assume consciously the major responsibility for their preschool children's cognitive growth without substantially altering the unique subcultures of individual families.

Accordingly, since 1965 the Verbal Interaction Project has been testing, through the innovative Mother-Child Home Program, the effect on preschoolers' IQ's of stimulating verbal interaction between low income mothers and their children from two to four years, an age period identified by many as "critical" for cognitive learning (eg, Bayley, 1965; Bloom, 1964). The "stimulators" are called Toy Demonstrators. Their working quarters are the living rooms of mothers and their children. The materials they demonstrate

to the mothers as Verbal Interaction Stimulus Materials are carefully selected, commercially available toys and books brought as gifts to the child (and, inevitably, dubbed VISM for short). Their clients are the mother and child treated as an interacting dyad. The core of the "hidden cognitive curriculum" demonstrated in the Toy Demonstrator's play with the child and his mother in their Home Sessions are nine categories of verbal interaction grounded in "instrumental conceptualism" (Bruner et al, 1966) and adapted to the particular features of each VISM. The major effort of the Toy Demonstrator is bent toward transferring the main responsibility for verbal interaction in the dyad to the mother, both in the semi-weekly Home Sessions and between sessions.

What has been the success of the Mother-Child Home Program? A small pilot project, ending in 1966 and testing the effect only on the verbal intelligence of the children, yielded such a significant verbal IQ gain in six low income preschoolers exposed to the Program (Levenstein and Sunley, 1968) that a full scale three year study swung into action, with the support of Children's Bureau.

From July 1967 through June 1968 the Verbal Interaction Project studied both verbal and cognitive effects on three groups totalling 54 children not only of the "double intervention" of a Toy Demonstrator's benign presence and her stimulation of verbal interaction but also of the "single intervention" of a similar home visitor who deliberately abstained from such stimulation in her behavior and gift's to the child. One group received the "double intervention", another received the "single intervention", and a third group received no intervention at all except for the psychological testing before and after the seven month experimental intervention period,

received by all the children and their mothers.

The experiment and the results, described more fully elsewhere (Levenstein, 1969) confirmed the ability of the Mother-Child Home Program to raise significantly the initially rather low mean verbal and general IQ's of the group of children exposed to seven months of the "double intervention" which included stimulation of verbal interaction between children and their mothers. In contrast, the group of children exposed to the "single intervention", which carefully excluded such stimulation, showed no significant IQ gain, nor did the group which received no intervention beyond the testing. (Individual differences in IQ change were, of course, demonstrated among the children in all three groups.)

The results did indeed appear to confirm -- spectacularly so in some individual cases -- our hunch that this method of fostering the role of low income mothers in their preschool children's cognitive growth was a viable one. Further, our testing of the mothers demonstrated the ability of mothers to respond to such a program of stimulation of verbal interaction with their children even if their own verbal intelligence was not above average. However, the results could not show whether their children would retain the intellectual gains long enough to provide the necessary foundation for good school achievement; whether the Program needed to have a second year added to reinforce the gains; and whether the Program could be run with personnel more practically available and less expensive than the 1967-1968 Toy Demonstrators.

For the Toy Demonstrators who were utilized during this first full research year were trained and experienced social workers. This professional discipline was chosen partly because it was most functional to a family

agency and partly because of a basic assumption that the Toy Demonstrator must be able to give maximum understanding and response to the needs of the mother as well as the child in a Program in which the mother is of such crucial importance. The actual training of the Toy Demonstrator in techniques of verbal interaction stimulation was conjectured to be secondary to her larger professional skills, and this indeed turned out to be the case, as measured by the impressive continued cooperation and satisfaction of mothers in the Program.

Yet, from the start, the impracticality of indefinitely utilizing such high trained professional personnel in the Toy Demonstrator role was recognized. Their pioneering of the role was not only to establish the effectiveness of the Program itself but to explore the possibility of non-professionals becoming competent Toy Demonstrators. The professionals consciously used their case work skills to test out techniques for motivating mothers and children which would be within the skill range of non-professionals.

Therefore, to extend further the practical applicability of the Program, the use of non-professionals in place of the last year's social workers is being tested during the current research year, along with experimentation with reinforcing the gains of last year's children by minimally continuing the Program with them. The social workers who were Toy Demonstrators last year have trained and are supervising two groups of non-professional personnel acting as Toy Demonstrators during 1968-1969.

One of these groups is made up of family agency volunteers, women essentially of middle income or above. The other group is composed of

women who were themselves mother-participants last year and have thus had intensive personal experience with the Program; they are all of low income and are paid for their services as Toy Demonstrators. In preparation for their duties, both groups of Toy Demonstrators participated in a one month, eight session Training Workshop led by the former Toy Demonstrators -- the social workers. Subsequently, the Toy Demonstrators have attended weekly Toy Demonstrator Conferences for group supervision by the same social workers, including training in the verbal interaction techniques to be used with each week's new VISM. Individual supervision is provided as needed. A number of original instruments and techniques have been developed for use in supervision.

Basically the same general instructions were given this year to both Toy Demonstrators and mother-participants as during the first year of research. The mothers of the children in this year's Program were initially told:

As you know from our letter to you, we are trying through the Mother-Child Home Program to find ways of helping little children to do well in school when they enter later on.

Mrs. _____ will be your Toy Demonstrator and will visit you and X together at home twice a week, on (days). Each week she will bring you a new toy or book as a present for X, and demonstrate ways to play with it. Mrs. _____ will play right with him, and then she'll ask you to play with him and the new toy. Try to notice the kinds of things the Toy Demonstrator encourages him to do with it, and especially notice that she tries to talk with him as they play. We have a hunch that talking with him about the play activity may be especially helpful. We hope you will play and talk with him a few minutes each day.

Every other week the Toy Demonstrator will bring a book instead of a toy for X, and she'll do the same thing with that: first she'll read to him a bit, and then you'll take over. And as with the toy, we'd want you to read to him also every day, a whole story, if possible.

Don't worry if you forget to do all the things the Toy Demonstrator does. In fact, you may think of ways of playing and talking that didn't occur to Mrs. _____. You'll sort of learn from each other and be a kind of team to help in getting the most out of the toy.

At the end of the Mother-Child Home Program, which will last about seven months, he may keep all of the books and toys. He'll have so many that we will provide you with a toy chest to keep them in.

In addition, the mothers were invited, in the presence of the Toy Demonstrators being introduced to them, to get in touch with the supervising social workers whenever they wished to do so. They were also interviewed by the social workers at mid-intervention to gauge their satisfaction with the Program and with their Toy Demonstrators.

The general instructions to the Toy Demonstrators were:

Your task is to provide a model for the mother in interacting with her child verbally or in ways related to encouragement of verbal interaction. Your role is to "demonstrate" rather than to teach, by showing the mothers the verbal possibilities of the Verbal Interaction Stimulus Materials in your own play with the child and by interacting with the child in a manner which will positively reinforce his motivation and verbal behavior. Use the Handbook for Toy Demonstrators as a guide to the behavior which you will model during the session.

Remember that the mother, not you, is meant to be the child's principal teacher. Treat the mother as a colleague in a joint endeavor in behalf of the child. Share your verbal stimulation techniques with her by demonstrating them in play with her child, but draw her into the play and take a secondary role as soon as you can in each session while she repeats and elaborates what she has seen you do. Encourage her playing and reading with the child between home sessions. Keep constantly in mind that the child's primary and continuing educational relationship is with his mother; do all you can to preserve that relationship.

We will not know the effect of the non-professional Toy Demonstrators on the cognitive growth of the children until after the post-testing for this year is completed. But we have been impressed from the beginning by their devotion and skill; they give every appearance of coming close

to the high standards set by the professional social workers who pioneered the role of Toy Demonstrator.

The encouraging progress of the second year of research supports for us the appropriateness of family agency auspices for this cognitive intervention program and social work supervision for non-professional personnel in the role of Toy Demonstrators. From our experience we have begun to conceptualize the requirements for both auspices and personnel which we have come to feel are necessary for successful operation of the Mother-Child Home Program. For example, the agency sponsoring this Program should place primary value on the family as an institution and on respect for the needs of individuals, whether staff or client; should be structured with a minimum of bureaucratization; and should be ready to respond with its own referral to community resources to the requests of mothers for help in any area of their lives. Personnel in the role of Toy Demonstrator should either be initially skilled in forming a non-didactic relationship with the mother as well as the child or should be closely supervised by others having these skills as well as the many others necessary for effective supervision of the Toy Demonstrators. These criteria are met by family agency sponsorship.

We will continue the Mother-Child Home Program during 1969-1970 on much the same basis as the current year's activities, with the addition of a follow-up study of last year's subjects, the reinforcement of the current year's cognitive gains by a second year of the Program, further experimentation with varieties of low income subjects and Toy Demonstrators, and opening our center for demonstration of the Program to visitors. We hope to continue our follow-up studies far enough into the future not only to

measure the cognitive gain retention and future school achievement of our subjects but to take advantage of our rare opportunity to study the quality of intelligence fostered by our stimulation of mothers' verbal interaction with their children. In recent challenging papers Arthur Jensen has raised the question of whether children of low socio-economic status can ever, for genetic reasons, achieve the kind of intelligence available to middle class children (Jensen, 1967, 1969). An inevitable facet of our follow-up studies during the years ahead will be the longitudinal investigation of this old, and apparently not quite settled, nature-nurture controversy revived by Jensen.

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